

ABSTRACT OF THE DISCLOSURE

An apparatus for depositing and aligning an amorphous film in a single step, a method of forming an aligned film on a substrate in a single
5 step by combining the deposition and alignment of an alignment layer into a single-step using ion beam processing and an amorphous film having an aligned atomic structure prepared by a method in which an aligned film is deposited and aligned in a single step are provided. The film is deposited and aligned in a single step by bombarding a substrate with an ion beam
10 at a designated incident angle to simultaneously (a) deposit the film onto the substrate and (b) arrange an atomic structure of the film in at least one predetermined aligned direction.

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